# Assuring CoP 1, 2 and 3 Metering Systems

1. Introduction
   1. At its December 2012 meeting, the [Performance Assurance Board (PAB)](http://www.elexon.co.uk/group/performance-assurance-board-pab/) expressed concern that there may be some MSIDs with calculated energy volume that may not be compliant with the BSC, Code Subsidiary Documents (CSDs) and Metering CoPs. Primarily, its concern is around Metering Codes of Practice 1, 2 and 3.
   2. The PAB asked ELEXON to identify how many Metering Systems fell into this category and to report back in January 2013 as PAB action 143/03. The PAB then asked ELEXON to investigate potential assurance options.
   3. We first analysed CVA MSIDs and associated volumes for available options for assurance. We will progress obtaining volumes for the SVA MSIDs and aim to have a full set of validated data by the end of quarter one 2014 (given available resources).
2. Data Analysis
   1. We performed analysis of the TAA data from CVA MSID inspection visits since 2007, the main sample of all inspection visits from 2012/2013 audit year and energy volumes received from the CDCA[[1]](#footnote-1).

**Table one**: Analysis of energy volumes recorded by CVA MSIDs, as provided by the CDCA.

|  |  |
| --- | --- |
| **Energy Volume Analysis (MWh)** | |
| Average values based on CDCA volumes measured between January to March 2013, | |
| **Mean (per month)**[[2]](#footnote-2) | 195,933.90 |
| **Minimum (per month)** | 0 |
| **Maximum (per month)** | 1,371,694.30 |
| **Total (per month)** | 48,700,058.67 |
| **Netted MWh (per month)** [[3]](#footnote-3) | -10,103,889.87 |

**Table two**: Analysis of the outcome of TAA Inspection visits to CVA MSIDs since 2007 shown against the outcome of the main inspection sample from the audit year 2012/13.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CVA MSIDs total = 791 | **CVA Inspected MSID outcomes** | | **TAA Main Sample Visit outcomes** | | |
| **Type of NCs** | **Volume** | **Proportion** | **Volume** | **Proportion** | **Proportion type** |
| Inspected by TAA | 329 | 41.59% | 1116 |  |  |
| Compliant Visits | 77 | 23.40% | 244 | 21.86% | Of inspected MSIDs |
| NC Visits | 250 | 75.99% | 953 | 85.39% |  |
| NCs identified | 794 | 3.18 | 1335 | 1.40 | NCs per NC visit |
| Cat 1 NCs | 4 | 1.60% | 26 | 2.73% | Of all NCs found |
| Cat 1 NCs outstanding | 1 | 0.00% | 4 | 15.38% | Of all Cat 1s NCs found |
| Commissioning NCs | 177 | 70.80% | 796 | 83.53% | Of all NCs found |
| Commissioning records NCs  (Incomplete or inaccurate) | 53 | 21.20% | 118 | 12.38% | Of all NCs found |
| CDCC[[4]](#footnote-4) NCs | 0 | 0.00% | 5 | 0.52% | Of all NCs found |

NB. A sum of NC visits and compliant visits may not equal the total number of visits made by the TAA because the outcomes of visits can also be classed as ‘no access’ or ‘aborted’ on safety reasons as well as compliant and NC.

1. Proposal
   1. The only effective way to fully detect compliance and provide assurance that the Metering System meets all aspects of the CoP and is recording accurately is to physically inspect MSIDs.
   2. Additionally, considering that incomplete or inaccurate commissioning record NCs are significantly higher in the CVA market than across the TAA main sample (highlighted in Table two) we would need to visit the site to assess the validity of the commissioning records.
   3. However, we could do an assessment of the availability and quality of commissioning records that fell into the ‘commissioning records no provided’ pot (49.6%). We could also do some site visits to assess the effectiveness of commissioning procedures and record keeping. This would be done as a [Technical Assurance of Performance Assurance Parties (TAPAP)](http://www.elexon.co.uk/reference/market-compliance/audits/technical-assurance-of-performance-assurance-parties/) check (as per BSCP535) and included as part of the [Risk Operating Plan (ROP)](http://www.elexon.co.uk/reference/market-compliance/performance-assurance/performance-assurance-processes/) for 2014/2015.
   4. This would also support us to address the issues raised by the PAB and the BSC Panel about the commissioning process (PAB149/04). We would develop a TAPAP check during the first quarter of 2014, with a view to performing the check between April and September 2014.
   5. The primary challenge is the volume of MSIDs and the resources required to inspect them (by the TAA and the MOAs). There are 791 CVA MSIDs registered with the CRA. Some (329) we have already inspected via the TAA (some recently, some not so recently). The rest (462) we have never visited.
   6. We propose to increase the CVA main sample size from 5% (approx. 40 MSIDs) to 14.75% (approx. 116 MSIDs) of the CVA MSID population. We would include this and our rationale for this change through the ROP for 2014/15 (and up to 2018).
   7. The TAA has confirmed that this achievable. The TAA would report as normal through the Annual Report on its findings of the CVA main sample.
   8. The PAB requested that we review the findings of the year 2014/2015 with a view to extending the increased sample size until 2018. Extending the sample size for 2015/2016 would be dependent upon the benefits highlighted by the first year’s results.
2. Benefits
   1. The benefits of this of work are difficult to quantify as there are a number of ‘what if’ scenarios to consider. However, we can use the materiality calculation that uses TAA data to feed into the BSC Auditor’s report on an annual basis. We could use it as an ‘indicator’ of the cost of poor quality.
   2. **Materiality calculation methodology**: We look at each category 1 NC identified by the TAA, validate it against a set of criteria and then liaise with the MOA, DC and LDSO. We do this to ascertain the start of the NC, date for resolution and the volume of data impacted.  
        
      Once we have all that information, we calculate the impact to Settlement using an average of the daily volume measured for each MSID multiplied by the number of days that the non-compliance existed for during the Settlement period.  
        
      During 2012/2013, we calculated the impact to Settlement for nine category 1 NCs.   
        
      Using the materiality calculation, the impact was **14,972,743 kWh** over the Settlement period.
   3. In order to put a monetary value on this figure (as an indicator only), we use the [Credit Assessment Price](http://www.elexon.co.uk/reference/credit-pricing/credit/) (CAP, this calculation used £51 per MWh, though this shifted to £57 in September 2013).   
        
      This values the inaccurate volume at **£764k for the Settlement period** or **£54k per month.**
   4. We could also assess the impact if (what we know is a common type of non-compliance) one MSID was recording two thirds of its true volume?

If one MSID was identified by the TAA as measuring two thirds of the true volume and it measured the mean volume highlighted in Table one then we could pose that the MSID was **under recording by 48,615.18 MWh per month, multiplied by the CAP** = **£2.5 million per month.**

1. PAB Approval
   1. Based on the benefits against the estimated cost of the services (the PAB were provided a cost for these services by the TAA, though this has yet to be fully negotiated and we have therefore not provided the cost here).
   2. The PAB approved:
2. Increasing the sample size from 5% to 14.75% for the CVA MSID for each of the next four years and include that into the ROP for the next audit year (2014/2015),
3. Review progress at the end of 2014/2015 and assess if there is still significant benefit from doing the visits for the following year (2015/2016) and the same for subsequent years, and
4. Including a commissioning record assessment into the TAPAP scope of work for 2014/2015, through the ROP.

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1. Figures calculated from MSID measurement types ‘active import’ and ‘active export’. [↑](#footnote-ref-1)
2. Average (mean) of the volume of all 791 CVA MSIDs over three months Jan to Mar 2013. [↑](#footnote-ref-2)
3. Sum of total active export in MWh minus the sum of total active import in MWh. All figures calculated in this paper have been calculated to provide an indication of the volumes and impact on Settlement data / £’s and shouldn’t be taken as precise. [↑](#footnote-ref-3)
4. Consumption Data Comparison Check – Comparison of HH data from Meter with HH from CDCA. [↑](#footnote-ref-4)